

IN THE CLAIMS

Please amend the claims as follows:

1. (CURRENTLY AMENDED) A vapor compression system comprising:
a compression device to compress a refrigerant to a high pressure, said compression device including a discharge;
a heat rejecting heat exchanger for cooling said refrigerant, and a fluid accepts heat from said refrigerant;
an expansion device for reducing said refrigerant to a low pressure, said expansion device including an inlet;
a heat accepting heat exchanger for evaporating said refrigerant;
a refrigerant line bypassing said heat rejecting heat exchanger between said discharge of said compression device and said inlet of said expansion device; and
a valve located on said refrigerant line to control a flow of refrigerant between said discharge of said compression device and said inlet of said expansion device; and
a heat accepting heat exchanger for evaporating said refrigerant.
2. (CURRENTLY AMENDED) The system as recited in claim 64 wherein said fluid is water.
3. (CURRENTLY AMENDED) The system as recited in claim 1 further including a control and a sensor that detects a defrosting condition of said heat accepting heat exchanger and a control, and said control opens said valve when said sensor detects said defrosting condition to allow said refrigerant to flow through said valve.
4. (CURRENTLY AMENDED) The system as recited in claim 3 wherein said refrigerant from said compressor flows through said valve, flows through said expansion device, and flows through heat accepting heat exchanger to melt frost on said heat accepting heat exchanger when said valve is open.

60246-214
10678

5. (CURRENTLY AMENDED) The system as recited in claim 3 wherein said control closes said valve when said sensor does not detect said defrosting condition to prevent said refrigerant from flowing through said valve.
6. (CURRENTLY AMENDED) The system as recited in claim 1 further including a pump that draws said a fluid through said heat rejecting heat exchanger, and said fluid exchanges heat with said refrigerant flowing through said heat rejecting heat exchanger.
7. (CURRENTLY AMENDED) The system as recited in claim 6 further including a control, wherein said control closes deactivates said pump to stop said fluid from flowing through said heat rejecting heat exchanger when said control opens said valve to allow said refrigerant to flow through said valve.
8. (ORIGINAL) The system as recited in claim 1 wherein said refrigerant is carbon dioxide.
9. (CURRENTLY AMENDED) The system as recited in claim 3 further including a second valve positioned between asaid discharge of said compression device and said gas coolerheat rejecting heat exchanger, and said control closes said second valve when said sensor detects said defrosting condition to prevent said refrigerant from flowing through said second valve.
10. (CURRENTLY AMENDED) The system as recited in claim 3 further including a second valve positioned between said gas cooler and ansaid inlet of said expansion device, and said control closes said second valve when said sensor detects said defrosting condition to prevent said refrigerant from flowing through said second valve.

60246-214
10678

11. (CURRENTLY AMENDED) The system as recited in claim 3 wherein said valve includes a first port in fluid communication with ~~a~~said discharge of said compression device, a second port in fluid communication with said heat ~~rejection~~rejecting heat exchanger, and a third port in fluid communication with ~~an~~said inlet of said expansion device, and said control closes said second port to prevent said refrigerant from said compression device from flowing through said heat rejecting heat exchanger and opens said third port to allow said refrigerant from said compression device to flow through said expansion device along said refrigerant line when said sensor detects said defrosting condition and said control opens said second port to allow said refrigerant from said compression device to flow through said heat rejecting heat exchanger and closes said third port to prevent said refrigerant from said compression device from flowing through said expansion device along said refrigerant line when said sensor does not detect said defrosting condition.

12. (CURRENTLY AMENDED) The system as recited in claim 3 wherein said valve includes a first port in fluid communication with ~~an~~said inlet of said expansion device, a second port in fluid communication with said heat ~~rejection~~rejecting heat exchanger, and a third port in fluid communication with ~~a~~said discharge of said compression device, and said control closes said second port to prevent said refrigerant from said heat rejecting heat exchanger from flowing through said expansion device and opens said third port to allow said refrigerant from said compression device to flow through said expansion device along said refrigerant line when said sensor detects said defrosting condition and said control opens said second port to allow said refrigerant from said heat rejecting heat exchanger to flow through said expansion device and closes said third port to prevent said refrigerant from said compression device from flowing through said expansion device along said refrigerant line when said sensor does not detect said defrosting condition.

13. (CURRENTLY AMENDED) The system as recited in claim 1 wherein an orifice of said expansion device is adjusted to control one of an inlet temperature of said refrigerant ~~increasing~~increasing said heat ~~rejection~~rejecting heat exchanger, a power of said ~~compressor~~compression device, and said high pressure of said system.

60246-214
10678

14. (CURRENTLY AMENDED) A vapor compression system comprising:
a compression device to compress a refrigerant to a high pressure, said compression device including a discharge;
a heat rejecting heat exchanger for cooling said refrigerant, and a fluid accepts heat from said refrigerant in said heat exchanger;
a pump that draws said fluid through said heat rejecting heat exchanger;
an expansion device for reducing said refrigerant to a low pressure, said expansion device including an inlet;
a heat accepting heat exchanger for evaporating said refrigerant;
a refrigerant line bypassing said heat rejecting heat exchanger between said discharge of said compression device and said inlet of said expansion device;
a valve located on said refrigerant line to control a flow of said refrigerant between a said discharge of said compression device and an said inlet of said expansion device;
a heat accepting heat exchanger for evaporating said refrigerant;
a sensor that detects a defrosting condition of said heat accepting heat exchanger; and
a control that opens said valve when said sensor detects said defrosting condition, and said ~~hot~~ refrigerant from said compressor compression device bypasses said heat rejecting heat exchanger, flows through said valve, flows through said expansion device, and flows through said heat accepting heat exchanger to melt said frost on said heat accepting heat exchanger when said valve is open.

15. (CURRENTLY AMENDED) The system as recited in claim 14 wherein said control closes said valve when said sensor detects none of said frost on said heat accepting heat exchanger to prevent said refrigerant from flowing through said valve.

16. (CURRENTLY AMENDED) The system as recited in claim 14 wherein said control closes deactivates said pump to stop flowing said fluid through said heat rejecting heat exchanger when said control opens said valve to allow said refrigerant to flow through said valve.

17. (ORIGINAL) The system as recited in claim 14 wherein said refrigerant is carbon dioxide.

60246-214
10678

18. (CURRENTLY AMENDED) A method of regulating a high pressure of a transcritical vapor compression system comprising the steps of:

providing a heat accepting heat exchanger;

compressing a refrigerant to saidthe high pressure in a compression device including a discharge;

cooling saidthe refrigerant by exchanging heat with a fluid, and saidthe fluid accepts heat from saidthe refrigerant;

expanding saidthe refrigerant to a low pressure in an expansion device including inlet;

evaporating saidthe refrigerant in saida heat accepting heat exchanger;

sensing a defrosting condition of saidthe heat accepting heat exchanger;

flowing the refrigerant along a refrigerant line from the step discharge of the compression device to the inlet of the step of expansion device; and

melting frost on saidthe heat accepting heat exchanger when the step of sensing saidthe defrosting condition indicates saidthe defrosting condition is necessary.

19. (CURRENTLY AMENDED) The method as recited in claim 18 further including the steps of sensing no frost on saidthe heat accepting heat exchanger and blocking the flow of refrigerant from the step of compressioncompressing to the step of expansionexpanding.

20. (CURRENTLY AMENDED) The method as recited in claim 18 wherein saidthe refrigerant is carbon dioxide.